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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Modeling of a Large Structured Environment: With a Repetitive Canonical Geometric-Semantic Model -- Monte Carlo Localization for Teach-and-Repeat Feature-Based Navigation -- An Improved Cellular Automata-Based Model for Robot Path-Planning -- Bioinspired Mechanisms and Sensorimotor Schemes for Flying: A Preliminary Study for a Robotic Bat -- Evolutionary Coordination System for Fixed-Wing Communications Unmanned Aerial Vehicles -- Multi-agent Environment Exploration with AR.Drones -- H Path Tracking Control

for Quadrotors Based on Quaternion Representation -- Towards an Ethical Robot: Internal Models, Consequences and Ethical Action Selection -- “The Fridge Door is Open”–Temporal Verification of a Robotic Assistant’s Behaviours -- Implementation and Test of Human-Operated and Human-Like Adaptive Impedance Controls on Baxter Robot -- Hybrid Communication System for Long Range Resource Tracking in Search and Rescue Scenarios -- Wearable Self Sufficient MFC Communication System Powered by Urine -- Morphogenetic Self-Organization of Collective Movement without Directional Sensing -- The Pi Swarm: A Low-Cost Platform for Swarm Robotics Research and Education -- Tactile Features: Recognising Touch Sensations with a Novel and Inexpensive Tactile Sensor -- Polygonal Models for Clothing -- Design of a Multi-purpose Low-Cost Mobile Robot for Research and Education -- Adaptive Swarm Robot Region Coverage Using Gene Regulatory Networks -- Communicating Unknown Objects to Robots through Pointing Gestures -- A Cost-Effective Automatic 3D Reconstruction Pipeline for Plants Using Multi-view Images -- Improving the Generation of Rapidly Exploring Randomised Trees (RRTs) in Large Scale Virtual Environments Using Trails -- Intelligent Computation of Inverse Kinematics of a 5-dof Manipulator Using MLPNN -- Humanoid Robot Gait Generator: Foot Steps Calculation for Trajectory Following -- A Method for Matching Desired Non-Feature Points to Size Martian Rocks Based upon SIFT -- CogLaboration: Towards Fluent Human-Robot Object Handover Interactions -- euRathlon Outdoor Robotics Challenge: Year 1 Report -- FROctomap: An Efficient Spatio-Temporal Environment Representation -- Combined Force and Position Controller Based on Inverse Dynamics: Application to Cooperative Robotics (Extended Abstract) -- Learning Objects from RGB-D Sensors for Cleaning Tasks Using a Team of Cooperative Humanoid Robots -- Acoustic Based Search and Rescue on a UAV -- Visual Commands for Tracking and Control -- A Novel Saliency Method Based on Restricted Boltzmann Machine (RBM) and Its Application to Planetary Exploration.

Sommario/riassunto

This book constitutes the refereed proceedings of the 15th Conference on Advances in Autonomous Robotics, TAROS 2014, held in Birmingham, UK, in September 2014. The 23 revised full papers presented together with 9 extended abstracts were carefully reviewed and selected from 48 submissions. The overall program covers various aspects of robotics, including navigation, planning, sensing and perception, flying and swarm robots, ethics, humanoid robotics, human-robot interaction, and social robotics.